

|   | Type | L # | Hits | Search Text   | DBs   | Time Stamp          |
|---|------|-----|------|---|---|---------------------|
| 1 | IS&R | L1  | 8    | ((("5612548") or ("5541423")<br>or ("5500539") or<br>("5347147") or<br>("5034784jp04240784"))).PN.        | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>08:47 |
| 2 | IS&R | L2  | 10   | ((("5612548") or ("5541423")<br>or ("5500539") or<br>("5347147") or ("5034784")<br>or ("jp4240784"))).PN. | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>09:42 |
| 3 | IS&R | L3  | 0    | ("jp4240784").PN.   | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>09:42 |
| 4 | IS&R | L4  | 0    | ("jp-4240784").PN.  | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>09:43 |
| 5 | BRS  | L5  | 2    | jp-04240784-\$.did.   | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>09:43 |

|   | Type | L # | Hits  | Search Text                          | DBs   | Time Stamp          |
|---|------|-----|-------|--------------------------------------|---|---------------------|
| 1 | BRS  | L1  | 29583 | diamond and (free exciton)           | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>07:01 |
| 2 | BRS  | L2  | 13342 | 1 and light                          | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>06:59 |
| 3 | BRS  | L3  | 1616  | 1 and (light adj emitt\$4)           | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>06:59 |
| 4 | BRS  | L4  | 1216  | 1 and (light adj (emitter emitting)) | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>06:59 |
| 5 | BRS  | L5  | 280   | 4 and (257/\$.ccls.<br>372/\$.ccls.) | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>07:00 |
| 6 | BRS  | L6  | 8     | diamond and (free adj exciton)       | USPAT;<br>EPO;<br>JPO;<br>DERWEN<br>T;<br>IBM_TD<br>B | 2004/02/13<br>07:01 |

Membership Publications/Services Standards Conferences Careers/Jobs

# IEEE Xplore<sup>®</sup>

RELEASE 1.6

Welcome  
United States Patent and Trademark Office

Help FAQ Terms IEEE Peer Quick Links

Review

## Welcome to IEEE Xplore

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

## Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

## Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

## Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

Your search matched **2** of **1003743** documents.

A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

**Refine This Search:**

You may refine your search by editing the current search expression or entering a new one in the text box.

☐ Check to search within this result set

**Results Key:**

**JNL** = Journal or Magazine **CNF** = Conference **STD** = Standard

**1 Diamond radiation sensors for medical applications**

*Blum, F.; Denisenko, A.; Job, R.; Borchert, D.; Fahrner, W.R.;*

Industrial Electronics, 1998. Proceedings. ISIE '98. IEEE International Symposium on , Volume: 1 , 7-10 July 1998

Pages:163 - 166 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(344 KB\)\]](#) **IEEE CNF**

**2 Nuclear radiation detectors on various type diamonds**

*Blum, F.; Denisenko, A.; Job, R.; Borchert, D.; Weber, W.; Borany, J.V.; Hilleringmann, U.; Fahrner, W.R.;*

Industrial Electronics Society, 1998. IECON '98. Proceedings of the 24th Annual Conference of the IEEE , Volume: 4 , 31 Aug.-4 Sept. 1998

Pages:2382 - 2385 vol.4

[\[Abstract\]](#) [\[PDF Full-Text \(364 KB\)\]](#) **IEEE CNF**

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#)  
| [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

?show files

File 2:INSPEC 1969-2004/Feb W1  
(c) 2004 Institution of Electrical Engineers  
File 6:NTIS 1964-2004/Feb W2  
(c) 2004 NTIS, Intl Cpyrght All Rights Res  
File 8:Ei Compendex(R) 1970-2004/Feb W1  
(c) 2004 Elsevier Eng. Info. Inc.  
File 25:Weldasearch 1966-2002/Aug  
(c) 2004 TWI Ltd  
File 34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W2  
(c) 2004 Inst for Sci Info  
File 65:Inside Conferences 1993-2004/Feb W2  
(c) 2004 BLDSC all rts. reserv.  
File 92:IHS Intl.Stds.& Specs. 1999/Nov  
(c) 1999 Information Handling Services  
File 94:JICST-EPlus 1985-2004/Feb W1  
(c)2004 Japan Science and Tech Corp(JST)  
File 95:TEME-Technology & Management 1989-2004/Jan W4  
(c) 2004 FIZ TECHNIK  
File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Jan  
(c) 2004 The HW Wilson Co.  
File 103:Energy SciTec 1974-2004/Feb B1  
(c) 2004 Contains copyrighted material  
File 144:Pascal 1973-2004/Feb W1  
(c) 2004 INIST/CNRS  
File 239:Mathsci 1940-2004/Mar  
(c) 2004 American Mathematical Society  
File 241:Elec. Power DB 1972-1999Jan  
(c) 1999 Electric Power Research Inst.Inc  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info  
File 647:CMP Computer Fulltext 1988-2004/Feb W1  
(c) 2004 CMP Media, LLC

?ds

| Set | Items | Description                |
|-----|-------|----------------------------|
| S1  | 17    | DIAMOND AND (FREE EXCITON) |
| ?   |       |                            |

09949010 Genuine Article#: 468UQ Number of References: 23

**Title: Efficient free-exciton recombination emission from diamond diode at room temperature**

Author(s): Horiuchi K (REPRINT) ; Kawamura A; Ide T; Ishikura T; Takamura K ; Yamashita S

Corporate Source: Tokyo Gas Co Ltd, Dept Res & Dev, Frontier Technol Lab, Tsurumi Ku, 1-7-7 Suehiro Cho/Yokohama/Kanagawa 2300045/Japan/ (REPRINT) ; Tokyo Gas Co Ltd, Dept Res & Dev, Frontier Technol Lab, Tsurumi Ku, Yokohama/Kanagawa 2300045/Japan/

Journal: JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS, 2001, V40, N3B (MAR 15), PL275-L278

ISSN: 0021-4922 Publication date: 20010315

Publisher: INST PURE APPLIED PHYSICS, DAINI TOYOKAIJI BLDG, 4-24-8

SHINBASHI, MINATO-KU TOKYO, 105-004, JAPAN

Language: English Document Type: ARTICLE

Geographic Location: Japan

Journal Subject Category: PHYSICS, APPLIED

Abstract: Free-exciton recombination emission of 235 nm in wavelength is obtained by current injection at room temperature from a **diamond**-based pn junction diode composed of B-doped crystal grown by high-temperature, high-pressure synthesis and a S-doped homoepitaxial layer grown by the chemical vapor deposition method. The diode shows a clear rectification characteristic and a high external quantum efficiency of excitonic emission,  $8 \times 10^{-5}$ , which indicates that the excitonic emission of **diamond** is a good candidate for application to semiconductor UV-light-emitting devices. A defect-induced light emission and large leakage current indicate that a higher UV emission efficiency is expected with improvement of the junction quality.

Descriptors--Author Keywords: **diamond** ; UV ; light-emitting diode ; **free exciton** ; electroluminescence ; sulfur-doping ; n-type conductivity

Identifiers--KeyWord Plus(R): CHEMICAL-VAPOR-DEPOSITION; THIN-FILM; ELECTROLUMINESCENCE; SULFUR

Cited References: